IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Rick K. SOUTHERN et al.

Application No.: 10/034,446

Filed: December 26, 2001

For: METHODS FOR ATTACHING SOLID HARDWOOD FLOOR PLANKS TO CONCRETE FLOOR SURFACES

Confirmation No.: 1727

Group Art Unit: 3633

Examiner: Phi Dieu Tran A

Attorney Docket No.: 104981-4000

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants appeal to the Board of Patent Appeals and Interferences (the "Board") from the decision of the Examiner mailed October 18, 2007, rejecting claims 1-3, 5-7, 10, 12, and 14-20.

1. REAL PARTY IN INTEREST

The real party in interest is Richard P. Marshall Fine Flooring, Inc. ("Marshall"), having a business address of 12824 Cerise Avenue, Hawthorne, California 92050, the assignee of the entire right, title, and interest in the invention described and claimed in the above-identified patent application. The invention was assigned by Rick K. Southern and Richard P. Hirsch to Marshall. The assignment was recorded on February 12, 2002, at reel 012876, frame 0944.

2. RELATED APPEALS AND INTERFERENCES

Appellants and their legal representatives are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

Claims 1-13 were submitted upon filing of this application, Application No. 10/034,446, on December 26, 2001.

In an Office Action dated December 20, 2002, claims 1-2 and 5-6 were rejected as being anticipated by U.S. Patent No. 2,860,385 to Cohn ("Cohn"); claims 3 and 10 were rejected as being unpatentable over Cohn; claims 4, 7-9, and 11-13 were rejected as being unpatentable over Cohn in view of U.S. Patent No. 5,894,700 to Sweet ("Sweet"); and claims 3, 4, 10, and 11 were rejected as being indefinite. In an Amendment filed on March 20, 2003, claims 4 and 11 were cancelled and claims 1-3 and 5-6 were amended.

In a Final Office Action dated July 2, 2003, claims 1-3, 5-7, 10, and 12 were rejected as being unpatentable over Cohn in view of Sweet, and claims 8-9, and 13 were rejected as being unpatentable over Cohn in view of Sweet. Claims 1 and 5 were amended and claims 8-9 and 13 were cancelled in an Amendment under 37 C.F.R. § 1.116 filed October 30, 2003. A Declaration of Richard P. Hirsch under 37 C.F.R. § 1.132 (the "First Hirsch Declaration") was also filed on October 30, 2003. An Advisory Action mailed November 12, 2003 indicated that the October 30, 2003 Amendment under 37 C.F.R. § 1.116 would not be entered because the proposed amendments raised new issues that would require further consideration and/or search.

A Continued Prosecution Application was filed on November 25, 2003 to enter the October 30, 2003 Amendment. A Preliminary Amendment, again with the First Hirsch Declaration, was also filed on November 25, 2003, amending claim 1 and cancelling claims 8, 9, and 13.

This application was treated as a Request for Continued Examination by the Office, as noted in the Office Action mailed on January 6, 2004. In this Office Action, claim 1 was rejected as being indefinite; claims 1-3, 5-7, 10, and 12 were rejected as being unpatentable over U.S. Patent No. 2,088,238 to Greenway ("Greenway") and U.S. Patent No. 5,570,554 to Searer ("Searer") in view of U.S. Patent No. 3,616,117 to Anderson et al. ("Anderson"). In an Amendment dated January 27, 2004, claim 1 was amended. A Declaration of Joseph Grady under 37 C.F.R. § 1.132 (the "First Grady Declaration") was filed with the Amendment.

In a subsequent non-final Office Action mailed April 15, 2004, claims 1-3, 5-7, 10, and 12 were rejected as being unpatentable over Greenway in view of U.S. Patent No.

3,740,910 to Taylor ("Taylor") and Searer. A Request for Reconsideration was filed on July 6, 2004, including Declarations of Joseph J. Grady and Richard P. Hirsch under 37 C.F.R. § 1.132 (respectively, the "Second Grady Declaration" and the "Second Hirsch Declaration") in support of Appellant's position.

In a Final Office Action mailed October 20, 2004, claims 1-3, 5-7, 10, and 12 were again rejected as being unpatentable over Greenway in view of Taylor and Searer. A Response to the Final Office Action, without amendments, was filed on January 13, 2005.

An Advisory Action mailed on February 7, 2005 indicated that the January 13, 2005 Response would not be entered for purposes of an appeal, and that the request for reconsideration did not place the application in condition for allowance because the combination of the references meets the claimed limitations. A Request for Continued Examination was filed on April 20, 2005, with an Amendment amending claim 1 and adding new claims 14-20, and Supplemental Declaration of Richard P. Hirsch under 37 C.F.R. § 1.132 (the "Supp. Hirsch Declaration").

In a non-final Office Action mailed July 11, 2005, claim 15 was rejected as failing to comply with the enablement requirement and as being indefinite; claims 1-3, 5-7, 10, 12, and 16-20 were rejected as being unpatentable over Greenway in view of Taylor and Searer; and claims 14 and 15 were rejected as being unpatentable over Greenway in view of Taylor and Searer and further in view of U.S. Patent No. 5,951,796 to Murray ("Murray").

After filing a Notice of Appeal on October 11, 2005, and an Appeal Brief on February 13, 2006 (amended Appeal Brief filed June 1, 2006), prosecution was reopened and a non-final Office Action was mailed on August 23, 2006. In this Office Action, claim 15 was rejected for failing to comply with the enablement requirement, and claims 1-3, 5-7, 10, 12, and 14-20 were rejected as being unpatentable over Greenway in view of American Hardwood Information Center, Murray, and Searer.

This Office Action was subsequently vacated, and another Office Action was mailed March 2, 2007. In this Office Action, claim 15 was rejected for failing to comply with the enablement requirement; claims 1-3, 5-7, 10, 12, and 14-20 were rejected as being unpatentable over Greenway in view of a document published by Armstrong entitled "1/4" & 3/8" Engineered Products for Staple-Down & Glue-Down Installation" ("Armstrong"), Murray, and Searer; and claims 1-2 and 14-20 were rejected as being unpatentable over Greenway in

view of Armstrong and Murray. An Amendment, amending claims 1, 2, 6, 15 and 17, was filed on August 2, 2007, together with a Declaration of James Perkins under 37 C.F.R. § 1.132 (the "Perkins Declaration").

A final Office Action was mailed on October 18, 2007, maintaining the rejections of claims 1-3, 5-7, 10, 12, and 14-20 as being unpatentable over Greenway in view Armstrong, Murray, and Searer and of claims 1-2 and 14-20 as being unpatentable over Greenway in view of Armstrong and Murray.

Accordingly, claims 1-3, 5-7, 10, 12, and 14-20 remain rejected. Claims 1, 3, 5, 7, 10, 12, 14, 16, and 18-20 have been twice rejected in the their present form.

Claims 1-3, 5-7, 10, 12, and 14-20 are on appeal and are presented in Appendix A.

4. STATUS OF AMENDMENTS

Claims 4, 8, 9, 11, and 13 have been cancelled, and claims 1-3, 5-6, 10, and 14-20 have been amended.

In an Amendment under 37 C.F.R § 1.116 filed October 30, 2003, claims 1, 5, and 10 were amended, and claims 8-9 and 13 were cancelled. A Continued Prosecution Application was filed on November 25, 2003, to enter the October 30, 2003 Amendment.

In an Amendment filed January 27, 2004, claim 1 was amended.

A Response to Final Office Action was filed on January 13, 2005, making no amendments.

A Request for Continued Examination was filed on April 20, 2005, which included an Amendment amending claim 1, and adding new claims 14-20.

In an Amendment filed August 2, 2007, claims 1, 2, 6, 15 and 17 were amended.

No amendments have been filed subsequent to the present final Office Action of October 18, 2007.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention generally relates to a novel floor and methods of manufacturing the floor with plank hardwood floor boards attached to a concrete floor surface. The following is a summary of the claimed subject matter and the support therefor.

Claim 1 defines a method for attaching solid hardwood planks to a concrete floor surface. The method comprise preparing solid wood floorboards having a length of at least about 3 feet for attachment (Application at page 2, lines 3-5) to a concrete floor surface (Application at page 1, lines 4-9) and applying the floorboards to the concrete floor surface with at least one water resistant, water-impermeable adhesive (Application at page 1, lines 18-19) in sufficient quantity to attach the floorboards to the concrete surface (Application at page 3, lines 10-19). After the applying step, the floorboards are nailed to the concrete floor surface at substantially right angles to the concrete surface through the floorboards (Application at page 3, lines 20-25 and FIG. 2 (nails 22, 23, 24 pass through the planks 6, 7, 8, 9 and the adhesive layer 12 into the concrete slab 1)). The adhesive is then allowed to set (Application at page 1, line 26 and page 4, lines 16-20). Claim 18 defines that the floorboards are nailed through the adhesive layer (Application at page 1, lines 24-25).

Claim 20 also defines a method for installing on a concrete floor surface a floor comprising solid hardwood planks. The method comprises preparing sold wood floorboards of at least about 3 feet (Application at page 2, lines 3-5) for attachment to the concrete floor surface; applying at least one water-resistant, moisture-curable adhesive to attach the floorboards and the concrete floor surface (Application at page 1, lines 18-20); nailing the boards to the concrete floor surface (Application, page 3, lines 20-25 and FIG. 2 (nails 22, 23, 24 pass through the planks 6, 7 , 8, 9 and the adhesive layer 12 into the concrete slab 1)); and allowing the adhesive to set (Application at page 1, line 26, and page 4, lines 16-20).

Claim 5 defines a floor having a concrete floor surface with solid plank wood floorboards having a length of at least 3 feet (Application at page 2, lines 3-5) adhesively attached to the concrete floor surface (Application at page 1, lines 13-26; page 4, lines 21-22), without a subflooring between the boards and the concrete floor surface (Application at page 1, lines 4-6). The adhesive is water-resistant and water-impermeable (Application at page 1, lines 18-20 and page 3, lines 12-16). A plurality of nails extend to the concrete floor surface through the floorboards and through the adhesive, at right angles to the concrete floor surface (Application at page 1, lines 24-26; page 3, lines 20-25; and FIG. 2 (nails 22, 23, 24 pass through the planks 6, 7, 8, 9 and the adhesive layer 12 into the concrete slab 1)).

The methods and floor of the present invention provide numerous surprising advantages over the prior art. Among the advantages, the combination of nails with water-

resistant, water/moisture-impermeable, moisture-curable adhesive allows the flooring of the present invention to survive water logging and withstand the resultant warping due to increased hydrostatic pressure. The flooring can therefore maintain its appearance and functionality. Nails advantageously are provided in the claimed invention, which can ensure that the wood floorboards are held flat against the concrete surface with the adhesive therebetween to allow the adhesive to set and provide the proper contact. The advantage of nailing at substantially right angles in concrete is that it prevents chipping of the concrete that results when more inclined angles are used.

Wood planks of conventional flooring, however, need to be very flat in order to use an adhesive to attach the wood directly to concrete and to ensure proper and sufficient contact between the floorboards, adhesive, and concrete.

Also, unlike conventional methods, the presently claimed invention does not limit the types of preparations possible for the wood, particularly preparations that cause wood to warp. Warping, which is most common in certain types of wood preparation conducted away from the installation site, makes it difficult or impossible to produce a strong adhesion to the concrete subflooring by merely laying the floorboards on the adhesive.

Claim 14 recites that the adhesive comprises a moisture-curable polyurethane-based composition (Application at page 1, lines 18-24 and page 3, lines 14-17), and claim 15 specifies that the adhesive comprises a prepolymer including a polyol and a diisocynate (Application at page 1, lines 18-24). These adhesives are especially reliable in the environment of wooden floorboards laid on concrete, and the moisture curability of the adhesives provide surprising advantages because the adhesive can cure even the presence of high levels of moisture.

Claim 17 recites that the floorboards are prepared with surface features, including at least one of wormholes and scratches (Application at page 1, lines 9-12; page 2, lines 22-25; and FIG. 2 (wormholes and scratches 25, 26, 27)); that nails are nailed into the surface features to hide them in those features (Application at page 2, lines 24-25 and page 5, lines 20-22); and that the floorboards are installed so that the surface features are visible (Application at page 5, line 20 to page 6, line 7; and FIG. 1 (the floorboards are installed such that the wormholes/nail holes/scratches 6,7,8,9 are visible)).

Claims 19 and 20 recite methods that include allowing the adhesive to set with the boards nailed to the concrete floor surface (Application at page 1, lines 23-26; page 3, lines 20-22). This provides the surprising advantage over the prior art that the boards can be held in place for proper adhesion, even if the boards would tend to otherwise warp away from the concrete surface. This is especially beneficial, for instance, when the hydrostatic pressure in floorboards becomes elevated, causing the boards to warp, especially since the adhesive used can withstand the moisture, such as from water logging.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3, 5-7, 10, 12, and 14-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenway in view Armstrong, Murray, and Searer. Claims 1-2 and 14-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenway in view of Armstrong and Murray.

7. ARGUMENT

The Examiner's rejections of the pending claims are in error because the nature of the product and processes of the invention are neither taught nor suggested by Greenway, Taylor, Searer, Murray, or any feasible combination thereof, and the present claims are therefore not rendered obvious by these references. For the reasons below, Appellants respectfully request that the Examiner's obviousness rejections be reversed, and that claims 1-3, 5-7, 10, 12, and 14-20 be allowed.

A. <u>The Claims Are Not Obvious Over the Cited Prior Art</u>

To establish an obviousness rejection, there must be a showing that there is a motivation to combine the prior art and that the combination of the prior art teaches or suggests each and every element of the claimed invention.[1] Lack of a motivation or suggestion

[1] *In re Lee*, 277 F.3d 1338 (determining that the Board of Patent Appeals and Interferences improperly relied upon common knowledge and common sense of person of ordinary skill in art to find the invention obvious over combination of two prior art references, since factual question of motivation to select and combine references could not be resolved on subjective belief and unknown authority). *See generally In re Bond*, 910 F.3d 831 (Fed. Cir. 1990) (finding a claimed invention not obvious when the teachings of the two prior art references

demonstrates the patentability of the claims over the cited references.[2] For the present claims, however, the Examiner has failed to establish a proper basis for the obviousness rejections, because there is no motivation to combine the cited references and because no combination of the cited references provides any suggestion of the claimed invention, for the reasons below.

1. The Claims Are Not Obvious Over Greenway In Combination With the Other References

Greenway provides wood flooring that is either laid in mastic or nailed diagonally to a wooden subfloor, but not both.[3]

Mastic is neither water-resistant nor water-impermeable, and it therefore cannot withstand hydrostatic pressure or water-logging commonly observed in wood flooring installed directly on concrete, and would not provide strong enough adhesion to prevent warping and buckling of the flooring away from the concrete surface.

As to nailing, Greenway specifically teaches nailing only when the flooring is being secured to a subfloor, not directly to concrete.[4] Greenway does not disclose or suggest any need for using nails when floorboards are installed with mastic, but discloses laying in mastic and nailing as two separate and alternative methods of installation. Also, when nails are used in Greenway, they are driven "diagonally" into the nailing grooves on flooring strips.[5]

Thus, Greenway teaches installing wood flooring either with a mastic, without nails, when the flooring is attached to concrete, or with diagonally-driven nails when the flooring

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provided no teaching, suggestion or incentive supporting the combination); *Elf Atochem North America, Inc. v. LaRoche Indus.*, 85 F. Supp.2d 336, 343 (D. Del. 2000) ("Two or more prior art references may be combined to demonstrate obviousness, but the prior art must provide a suggestion or motivation to combine the references"); D. Chisum *et al.*, PRINCIPLES OF PATENT LAW 530-728 (Foundation Press 1998).

[2] *In re Lee*, 277 F.3d at 1338.

[3] *See, e.g.,* Greenway 1:10-12; 2:28-33.

[4] *Id.* at 2:38-43.

[5] *Id.* at 2:38-43 and FIG. 2 (showing nails (14) being driven into the nailing grooves at about a 45-degree angle).

is attached to a wooden subfloor, and does not disclose or suggest the inclusion of both a water-resistant, water-impermeable and/or moisture-curable adhesive and nailing as recited in the present claims. The present claims, therefore, are distinguished from Greenway. Further, given Greenway's teaching of using either nailing or adhesive, exclusive of the other, any combination of Greenway with the other references also does not disclose or suggest using both nails and adhesive to install wood flooring. Because no combination of Greenway and the other references provides cumulative teaching of using both a water-resistant and water-impermeable and/or moisture-curable adhesive and substantially vertical nailing to attach solid hardwood floor planks to a concrete floor surface, the references, in any combination, do not render the claims obvious.

The Examiner states that "Greenway (figure 2) shows nailing the boards to the concrete floor surface substantially at right angles thereto through the boards."[6] This statement is incorrect. FIG. 2 of Greenway shows nails driven at a 45° angle into the subflooring. Thus, according to the Examiner's applied interpretation, almost any angle would seem to qualify as substantially at right angle, which is contrary to the present specification and the understanding of the term by one of ordinary skill in the art. As stated in the Perkins Declaration, one of ordinary skill in the art would understand that a 45° angle is not substantially a right angle, but very far from a right angle.[7] As the Federal Circuit has recognized, the term "substantially" is a term of degree that would be understood by one of ordinary skill in the art in light of the specification.[8] In view of the specification, which shows nails at a 90° angle, one of ordinary skill in the art would understand that a 45° angle disclosed in Greenway is not substantially at right angle. The Examiner states that "[t]he claimed limitations do not require that angle [the substantially right angle] being at ninety degrees."[9] Appellants note, however, that the definition of "right angle" is "an angle of 90°."[10]

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[6] Final Office Action dated October 18, 2007, p. 6.

[7] Perkins Declaration ¶ 21.

[8] *See Seattle Box Co. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984).

[9] Final Office Action dated October 18, 2007, p. 10.

[10] Merriam-Webster's OnLine Dictionary at www.merriam-webster.com.

Greenway also clearly states that nails are driven "diagonally" downward, and provides nailing grooves at bottom corners of flooring strips, to allow such diagonal insertion of nails.[11] Because of their placement on the flooring strips, the nailing grooves in Greenway would not readily allow nailing the strips to the underlying surface substantially at right angles thereto, since they would not allow the insertion of a hammer or a nailing gun right next to the vertical walls of the grooves.

The Examiner also incorrectly states that Greenway discloses "the step of providing the floorboards with surface wormholes(6 . . . the structure at 6 reasonably interpreted as meeting the limitation of wormholes)."[12] What the Examiner classifies as "wormholes (6)" are not wormholes at all, but instead regular nailing grooves. Further, these nailing grooves in Greenway are structured such that they would be covered from view by adjacent flooring strips upon installation.[13] A wormhole in hardwood, by contrast, is a feature that gives a certain type of appearance to the wood, and would have been understood by a person having ordinary skill in the art to be very different from nailing grooves. Unlike the nailing grooves of Greenway, a visual feature like wormholes is also not meant to be covered, since it is meant to impart a certain appearance.[14]

Accordingly, Greenway does not disclose or suggest nailing solid wood floorboards to a concrete surface substantially at right angles thereto as recited in claims 1 and 5, providing the floorboards with certain surface features during the preparation step as recited in claim 2, nailing nails into surface features such as wormholes or scratches to hide the nails therein as recited in claim 17. These claims are therefore further distinguished from Greenway, in any combination with the other references.

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[11] Greenway 2:38-43; FIGS. 1-2.

[12] Final Office Action dated October 18, 2007, p. 2.

[13] Greenway FIGS. 1-2; 2:38-43.

[14] *See* Perkins Declaration ¶ 20.

2. The Claims Are Not Obvious Over Armstrong In Combination With the Other References

Armstrong is directed to the installation of engineered flooring, and does not disclose or suggest the methods and the floor as recited in the claims. The Examiner refers to the section in Armstrong entitled "Step 3: Installation of Flooring"[15] as disclosing "the step of gluing floorboard to a concrete slab and then nailing the floorboard to the substrate . . . to help hold the row in place."[16] The Examiner, however, misinterprets Armstrong.

Armstrong explicitly specifies that concrete slabs should be used for glue-down installation only, and not for staple-down installation. As disclosed in Armstrong, glue-down and staple-down are two separate and distinct methods, and there is no indication or suggestion of a reason to combine the two methods in flooring installation. In the section entitled "Subfloor Requirements," Armstrong separately lists subfloor types suitable for "staple-down or glue-down" installation and those suitable for "glue-down only."[17] "Concrete slabs" is listed as a subfloor recommended for "glue-down only."[18] Further, Armstrong specifically instructs to use a plywood subfloor for staple-down installation on concrete slabs.[19] Thus, Armstrong teaches using only an adhesive to install flooring directly on concrete, and requires a plywood subfloor between the flooring and the concrete for installation with nails. Armstrong does not disclose or suggest installing the flooring directly on concrete with an adhesive and nails as recited in the claims of this application.[20]

The section in Armstrong cited by the Examiner also does not disclose "the step of gluing floorboard to a concrete slab and then nailing the floorboard to the substrate" as the Examiner states. That section provides instructions for glue-down installation generally. It discloses how to lay engineered floorboards after spreading an adhesive on a subfloor, and

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[15] Armstrong p. 12.

[16] Final Office Action dated October 18, 2007, pp. 3, 6, and 9.

[17] Armstrong p. 5.

[18] *Id.*

[19] *Id.* at p. 6 ("Install a suitable moisture barrier followed by a plywood subfloor with a minimum thickness of 1/2").

[20] *See* Perkins Declaration ¶ 6.

provides that, "[i]f necessary, nail a sacrificial row with 1" nails on the dry side of your chalk line to help hold the first row in place."[21] Since the sacrificial row is placed on the dry side of the chalk line, there is no adhesive applied to the underside of the sacrificial row.[22]

In fact, as explained in the Perkins Declaration, a person having ordinary skill in the art would have known that an adhesive is never applied to the underside of a sacrificial row.[23] Because a sacrificial row is intended to be only a place holder to maintain a straight line against which to install the rest of planks and to be removed after installation of flooring, an adhesive is not applied on a sacrificial row since this would only hinder its subsequent removal.[24]

Thus, Armstrong does not disclose or suggest the methods for attaching or installing solid hardwood floor planks as recited in claims 1 and 20 and the floor as recited in claim 5. Furthermore, Armstrong does not disclose or suggest nailing floorboards to concrete substantially at right angles thereto as recited in claim 1. To the contrary, Armstrong specifically teaches nailing at a 45° angle.[25] Hence, claim 1 is further distinguished from Armstrong for this additional reason.

In addition, Armstrong is directed to installation of engineered flooring, which has a very different construction and behavior from solid hardwood flooring.[26]

Solid hardwood has its grain running in one direction and therefore exhibits curving, bowing, and twisting in response to factors such as humidity and moisture as well as wood processing steps prior to installation.[27] Thus, to use any adhesive to attach solid wood flooring directly to concrete, the flooring needed to be very flat and straight to ensure proper and

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[21] *Id.* at p. 12.

[22] *See* Perkins Declaration ¶ 7.

[23] *See id.* at ¶ 8.

[24] *Id.*

[25] Armstrong p. 4, FIG. 3 (showing staples installed at 45° at various air pressures); p. 7 (instructing to pre-drill and blind-nail at a 45° angle through the tongue of the row). *See* Perkins Declaration ¶ 9.

[26] Perkins Declaration ¶ 10.

[27] *Id.*

sufficient contact between the flooring, adhesive, and concrete.[28] Also, because solid wood tends to curve longitudinally as well as laterally, a solid wood floorboard must be pushed or pulled tightly to an adjacent board and then quickly nailed in place to be held down and straight.[29] This significantly limits installation conditions for solid hardwood flooring, as well as wood preparations that could be conducted prior to installation.[30] The claimed methods for installing solid hardwood floor planks solve these problems by using both a water-resistant and water-impermeable and/or water-curable adhesive and nailing.[31] Providing nails in addition to a water-resistant and water-impermeable and/or water-curable adhesive can keep the wood floorboards in proper contact with the adhesive, and the adhesive in proper contact with the concrete surface while the adhesive cures, thus greatly improving resistance to longitudinal and lateral warping and movement of the wood, and holding the boards straight to avoid curving that would cause gaps in the floor.[32]

Unlike solid wood flooring, engineered flooring is designed with a series of plies of wood laid with the grain running in a criss-cross pattern.[33] The resulting engineered floorboard is very straight and flat, without curving, bowing, or twisting.[34] Indeed, engineered flooring was invented in part to overcome limitations of solid wood flooring caused by warping, and to allow effective direct installation over concrete.[35] Engineered flooring is thus more stable to factors such as humidity, is not warped due to any processing steps, and does not need to be held flat against the subfloor during installation.[36] Consequently, there is simply no need to hold

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[28] *Id.*

[29] *Id.*

[30] *Id.*

[31] *Id.*

[32] *Id.*

[33] *Id.* at ¶ 12.

[34] *Id.*

[35] *Id.*

[36] *Id.*

down adhesively attached engineered flooring by additional nailing to "hold it in place" until the adhesive dries.[37]

The differences between solid wood flooring and engineered flooring are further demonstrated by Armstrong's own sets of instructions archived at http://web.archive.org/web/20010418225515/www.armstrong.com/resbrucewoodna/installation_tips.jsp.[38] In addition to the Armstrong reference cited by the Examiner, Armstrong provides separate installation instructions for 3/4" solid plank and strip products for nail-down installation; 1/4" and 5/16" solid oak parquet products for glue-down installation; 5/16" Natural Reflections solid strip for staple-down and glue-down installation; and Coastal Woodlands 3/8" &1/2" floating floors for floating or glue-down installation.[39] None of these instructions discloses nailing solid hardwood directly to concrete; all require a suitable nailing substrate such as plywood for solid hardwood installation.[40] As an example, the instructions for 3/4" solid plank and strip products, entitled "3/4" Solid Plank & Strip Products for Nail-Down Installation" (the "Solid Plank Instructions") (at ttp://web.archive.org/web/20010418225515/www.armstrong.com/resbrucewoodna/installation_tips.jsp), published around the same time as the cited Armstrong reference, was submitted as Exhibit A to the Perkins Declaration.

The Solid Plank Instructions discloses recommended subfloor surfaces for installing solid wood plank or strip as plywood, existing solid wood flooring, screeds, and T&G wood subflooring, with plywood being preferred.[41] Concrete is not included in the recommended subfloor surfaces.[42] The Solid Plank Instructions provides that "appropriate nailing surface" is required to install solid flooring over concrete.[43] A plywood subfloor is

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[37] *Id.*

[38] *Id.* at ¶ 13.

[39] *Id.*

[40] *Id.*

[41] Solid Plank Instructions p. 3; Perkins Declaration ¶ 15.

[42] Solid Plank Instructions p. 3; Perkins Declaration ¶ 15.

[43] Solid Plank Instructions p. 4; Perkins Declaration ¶ 16.

disclosed as a subfloor for installing solid flooring on concrete slabs.[44] Thus, the Solid Plank Instructions shows that, at the time of its publication, installing sold wood on concrete was known to require an appropriate nailing surface, such as a plywood subfloor, between the wood flooring and the concrete.[45] The Solid Plank Instructions further teaches blind-nailing plank boards at a 45° angle.[46] Thus, the Solid Plank Instructions shows the state of the art at the time of its publication that installation of solid wood on concrete required a subfloor and nailing at 45°.[47]

Therefore, Armstrong, which provides no disclosure or suggestion to one of ordinary skill in the art of using both an adhesive and nails to install solid hardwood flooring, and which is directed to a completely different flooring material, would not have rendered the claims obvious, alone or in combination with the other references. Further, because Armstrong is directed to a completely different flooring material from sold wood flooring, there would have been no motivation to combine Armstrong with the other references, as discussed below.

3. The Claims Are Not Obvious Over Murray In Combination With the Other References

Murray discloses a two-component polyurethane adhesive used to bond a construction material to a construction substrate.[48] The adhesive is formed by mixing a polyisocyanate prepolymer and a blend of elastomeric and flexible polyglycols immediately prior to applying or dispensing the adhesive on a substrate.[49] The adhesive has specific reactive and foaming properties.[50] It is a frothing foam that expands upon application to the substrate surface to fill voids or imperfections and collapses when the material to be bonded is placed in

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[44] Solid Plank Instructions p. 4; Perkins Declaration ¶ 16.

[45] Solid Plank Instructions p. 4; Perkins Declaration ¶ 16.

[46] Solid Plank Instructions p. 5; Perkins Declaration ¶ 16.

[47] Solid Plank Instructions pp. 3-5; Perkins Declaration ¶ 16.

[48] Murray 3:15-17.

[49] *Id.* at 3:31-39.

[50] *Id.* at 3:40-55.

contact with the adhesive.[51] The adhesive is applied in a specific manner, by mixing the two components under low pressure; dispensing the adhesive foam onto the surface of a construction substrate; allowing the adhesive foam to expand over the surface of the construction substrate and to initiate cell rupture; placing the construction material to be bonded in contact with the adhesive foam on the surface of the construction substrate; and allowing the adhesive foam to partially collapse and cure, forming a void-filling membrane that bonds the construction material to the construction substrate.[52]

Murray generally defines the term "construction materials" as materials used in the construction of residential and commercial dwellings, including ceramic tiles, wood parkay flooring, drywall or exterior sheathing, decorative wall boards, wood subfloor, and concrete decks.[53] The term "construction substrates" is also generally defined as various structural and foundational surfaces encountered in the construction of residential and commercial dwellings, including wood subfloors, concrete subfloors, wood, and concrete blocks.[54] Hence, the only flooring Murray mentions as construction material is wood parkay flooring, which is created with small pieces of wood and would behave differently from larger wood planks. There is no indication or suggestion in Murray of using larger wood planks, such as the floorboards having a length of at least about 3 feet recited in the claims.

Further, Murray provides no actual disclosure of using the disclosed adhesive for floor installation. Rather, the examples disclosed in Murray are directed to adhesion of tiles, asphalt shingles, decorative bricks, roof insulation board, roof membrane, and cement blocks.

Murray also does not disclose or suggest installing any construction material to a construction substrate by using both the adhesive and nailing. In particular, Murray does not disclose or suggest attaching or installing solid hardwood floor planks to a concrete floor surface by applying an adhesive and nailing as recited in claims 1 and 20, or the floor comprising a concrete floor surface with solid plank wood floor boards as recited in claim 5.

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[51] *Id.*

[52] *Id.* at 5:49-63.

[53] *Id.* at 3:17-14.

[54] *Id.* at 3:25-30.

Accordingly, Murray does not render the present claims obvious, alone or in combination with the other references, because no combination of Murray and the other references provides cumulative teaching of using both a water-resistant and water-impermeable and/or moisture-curable adhesive and substantially vertical nailing to attach solid hardwood floor planks to a concrete floor surface.

4. The Claims Are Not Obvious Over Searer In Combination With the Other References

Searer is directed to positively avoiding adhesives altogether in floor installation by providing interlocking floor that is secured only with a staple or nail.[55] The intentional and complete absence of any adhesive is an essential feature of the Searer flooring, which is specifically intended to avoid aeration and such other treatments required when using an adhesive as well as problems caused by chemical adhesives that can contain toxic or harmful chemical substances.[56] Searer achieves such complete avoidance of adhesive by providing floor members of interlocking design, and by projecting a stable or nail substantially vertically into a blind surface on the flooring member and into the holding surface.[57]

Thus, Searer, alone or in combination with the other references, does not disclose or suggest, but actually teaches away, from the claimed methods and floor using an adhesive.

5. There Is No Motivation To Combine the References

Because each cited reference is directed to a different flooring method that achieves a different effect or purpose, a person having ordinary skill in the art would not have had a motivation to combine the references to achieve the flooring methods and the floor recited in the present claims.[58]

For example, because Greenway teaches nailing and adhesive as separate and alternative installation methods, there is no motivation to combine Greenway with the other

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[55] Searer 1:7-14; 2:21-30.

[56] *Id.* at 2:21-30; 1:16-24.

[57] *Id.* at 2:21-30.

[58] *See* Perkins Declaration ¶¶ 18-19.

references to achieve a combination of nailing and adhesive. Also, because there is no suggestion or need in Greenway, which uses mastic and not a water-resistant or water-impermeable material, to make the floor waterproof,[59] there is no motivation to look to any other reference for this purpose. The Examiner states that "the combination enhances the attachment of Greenway's boards to its substructure," and that "[t]he modification is thus encouraged and motivated."[60] Because Greenway teaches nailing and adhesive as separate alternative, however, such modification would not have been motivated.

Armstrong is different from the other references as being directed to a different type of material, i.e., engineered flooring instead of solid wood flooring. As one of ordinary skill in the art knows, engineered flooring has different properties from sold wood flooring.[61] Because the engineered flooring of Armstrong behaves differently from, and can be treated and installed in a way different from, solid wood flooring, a person having ordinary skill in the art would not be motivated to combine Armstrong with the other references cited in the Office Action.

Murray is directed to bonding construction materials and construction substrates.[62] The only flooring Murray mentions as construction material is wood parkay flooring, which is created with small pieces of wood and would behave differently from larger wood planks. There is no indication or suggestion in Murray of using larger wood planks, such as the floorboards having a length of at least about 3 feet recited in the claims. Thus, one of ordinary skill in the art would not have been motivated to combine Murray with the other references to achieve the claims.

The Examiner states that it would have been obvious to modify the Greenway's method steps in view of Murray, because "having the adhesive connecting the floorboards to the concrete being water resistant, water impermeable would enable the secure fastening of a flooring structure to a concrete substrate, filling void or imperfections between construction

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[59] Greenway 2:31-34.

[60] Final Office Action dated October 18, 2007, p. 10.

[61] *See* Perkins Declaration ¶ 19.

[62] Murray 3:15-30.

material, providing fast curing time as taught by Murray."[63] There is no suggestion in any of the references, however, that a problem of filling voids exists. There is no indication even in Murray that filling voids is an issue to be resolved in flooring.

Searer is incompatible with Greenway and Murray as explained below, and therefore does not provide any motivation to combine with these references.

Further, there is no indication or recognition in any of the cited art of the problems unexpected solved by the claimed invention, such as achieving improved contact between the concrete floor surface, adhesive, and sold wood flooring; providing a flooring that can withstand water-logging and elevated hydrostatic pressure; and allowing the use of warped wood in flooring installation, as discussed below.

Specifically, Greenway does not provide any suggestion that warping or water-logging are problems to be solved. Instead, Greenway teaches the use of non-water-resistant mastic, and the Greenway boards must be flat to allow the mastic to dry and attach the boards. Searer teaches against using adhesives, and provides no suggestion that nails can be used for warped wood, and as a permanent method of installing floors, purposefully without the adhesive, since the warped wood would likely pull the nails out of the concrete after a period of use. Because they are installed only by nailing, Searer's adhesive-free boards would readily pull away from the concrete subflooring upon warping or in water-logged conditions. Armstrong and Murray also provide no suggestion for countering the effects of hydrostatic pressure or allowing installation of warped boards.

Thus, none of the references indicates that withstanding water-logging or installing warped wood on concrete are problems to be solved, and the references lack any motivation to provide a floor that can resist water-logging or that be made with warped wood planks. Since the references provide no suggestion or expectation that the flooring would survive water-logging or be attached using non-flat planks, there would have been no motivation to combine these references to achieve such results.

Accordingly, the alleged motivation is not found in the cited art, and the cited art does not render the present claims obvious.

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[63] Final Office Action dated October 18, 2007, pp. 3-4, 6-7, and 9.

6. Searer Is Incompatible with Greenway and Murray

It is well established that "it is improper to combine references where the references teach away from their combination."[64] Thus, the Examiner's combination of diametrically opposed teachings of Searer with Greenway and Murray is improper.

As explained above, Greenway teaches using mastic as an adhesive, without nails, where floorboards are attached to concrete, and uses nails only when attaching floorboards to a wooden subflooring.[65] Murray is directed to a specific two-component polyurethane adhesive used to bond a construction material to a construction substrate.[66]

On the contrary, Searer expressly teaches installing flooring "without the use of adhesives" to avoid the hazards associated with chemical adhesive.[67] As such, a person of ordinary skill in the art would find "the use of any adhesive in attaching floorboards is expressly contrary and repulsive to the teaching of Searer,"[68] such that Greenway and Murray's teaching of using mastic and reactive polyurethane adhesive cannot be reconciled with Searer's teaching of not using any adhesive.

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[64] *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339 (Fed. Cir. 2001) ("We have noted . . . , as a 'useful general rule,' that references that teach away cannot serve to create a prima facie case of obviousness"); *In re Haruna*, 249 F.3d 1327 (Fed. Cir. 2001) ("A prima facie case of obviousness can be rebutted if the applicant . . . can show 'that the art in any material respect taught away' from the claimed invention."); *In re Dow Chemical Co.*, 837 F.2d 469 (Fed. Cir. 1989); *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) (opining that a reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant and that a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant); Manual of Patent Examining Procedure ("MPEP") § 2145(X)(D)(2).

[65] Greenway 2:31-34.

[66] Murray 3:15-17.

[67] Searer 1:16-24 and 2:21-30.

[68] Supp. Hirsch Declaration ¶ 8.

Thus, Greenway's use of mastic and Murray's use of reactive polyurethane adhesive are incompatible with Searer's complete avoidance of adhesive and cannot be properly combined.[69]

Furthermore, Greenway teaches *diagonally* nailing into a wooden subfloor, while Searer teaches *substantially vertical* nailing.[70] The teachings of Greenway and Searer are incompatible for this additional reason.

In this regard, Appellants submit that the teaching of each reference used in an obviousness rejection must "be considered in its entirety, *i.e.*, as a *whole*, including positions that would lead away from the claimed invention."[71] One cannot pick and choose isolated bits and pieces of prior art to arrive at a claimed combination in hindsight, but the "totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness."[72]

Thus, the nails of Searer cannot be selected on its own, apart from the totality of the Searer teaching, and combined with Greenway and/or Murray, since Searer, considered in its entirety, is directed to avoiding the use of adhesives. Combining Searer with Greenway and/or Murray would require impermissibly ignoring a major portion of the Searer reference, and the disclosure of Searer as a whole contradicts any motivation for such combination.

Consequently, Searer is not properly combinable with either Greenway or Murray, and there is also no motivation to make such combination.

7. Claims 2 and 17 Are Further Distinguished From the Cited Art

Claim 2 recites that the preparing step comprises providing the floorboards with surface wormholes or scratches, colors and finishes, or a combination thereof. Thus, the method recited in claim 2 not only provides surface wormholes or scratches, colors and finishes, or a

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[69] Perkins Declaration ¶ 19; Supp. Hirsch Declaration ¶ 15.

[70] Greenway 2:38-43 and FIGS. 1-2; Searer 4:14-17 and FIGS. 2-3 and 5.

[71] *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983) (suggesting error for considering the references in less than their entireties, *i.e.*, in disregarding disclosures in the references that diverge from and teach away from the invention at hand) (emphasis added).

[72] *Id.* at 1550; MPEP § 2146(X)(D)(3).

combination thereof, but provides such features to prepare the floorboards. None of the cited references disclose or suggest providing such surface features during preparation of floorboards before attaching the floorboards to the concrete. Further, such surface feature provides the surprising advantage that newly installed floorboards can have certain desired appearance, such as looking aged.

Claim 17 recites that the floorboards are prepared with surface features that include at least one of wormholes and scratches, and that the floorboards are nailed by nailing nails into the surface features to hide the nails therein. Such feature is also not disclosed or suggested in the cited references, and provides the surprising advantage that newly installed floorboards can have certain desired appearance, such as looking aged and/or appearing to have been installed without nails, since nails are hidden in surface features.

Therefore, claims 2 and 17 are further patentably distinguished from the cited references.

B. The Claims Provide Unexpected Benefits Over the Prior Art

The advantages provided by the claimed methods and floor are surprising over any possible combination of the cited prior art. Specifically, providing nails in addition to the adhesives helps keep the floorboards in proper contact with the adhesive, and the adhesive in proper contact with the concrete surface, while the adhesive cures, thereby greatly improving resistance to warping and movement of the wood that can be encountered during installation.

As explained in the Supplemental Hirsch Declaration, prior to the invention of the claimed methods, attaching wood flooring directly to a concrete surface presented significant challenges that limited the types of preparations for the wood and compromised the quality of the installed flooring. For example, the solid hardwood flooring needed to be very flat and straight to ensure proper and sufficient contact between the floorboards, adhesive, and the concrete.[73] This significantly limited the type of preparation of the wood that could be used prior to floor installation, because some types of preparations cause the wood to warp, to an extent that it would not be possible to obtain a strong, complete adhesion between the concrete surface and the floorboards laid by traditional methods.

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[73] Supp. Hirsch Declaration ¶ 4.

Another problem was that water can collect on the concrete surface and may not drain away from the floorboards, since floors are typically generally horizontal.[74] Thus, when wood floorboards are installed by traditional methods, trapped water on the concrete is absorbed into the floorboards, which can produce a highly elevated hydrostatic pressure in the floorboards.[75] Elevated hydrostatic pressure in turn causes the floorboards to warp significantly, which is more than sufficient to cause the wood to peel away from the concrete.[76] Hence, when using traditional installation methods, a very strong adhesive that can resist water and such warping water is needed to keep the floorboards attached to the concrete. If the adhesive cannot withstand this water and its effects on the wood floorboards, then the trapped water can destroy the adhesive bond between the wood and the concrete surface.

The claimed methods address these problems and provide surprising advantages by attaching wood floorboards with at least one water-resistant, water-impermeable and/or moisture-curable adhesive and then nailing the boards to the concrete. The combination of nails and a water-resistant, water-impermeable and/or moisture-curable adhesive allows the flooring to survive water-logging and to resist warping caused by elevated hydrostatic pressure. Further, because wood flooring installed according to the claimed methods can withstand warping, the methods do not limit the type of preparations for the wood, including preparations that cause wood to warp.

Because no combination of the cited prior art suggests these unexpected benefits of the claimed invention, the cited art does not render the claims obvious.[77]

Additionally, claim 17 recites that the floorboards are nailed by nailing nails into the surface features, which include at least one of wormholes and scratches, to hide the nails therein. As noted above, such feature is not disclosed or suggested in the cited references, and

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[74] *Id.* at ¶ 5.

[75] *Id.*

[76] *Id.*

[77] *In re Chupp*, 816 F. 2d 643, 646 (Fed. Cir. 1987) (finding of nonobviousness by showing that the claimed invention was more effective than the closest prior art); *In re Application of Meyer*, 599 F.2d 1026, 1031 (C.C.P.A. 1979) (finding of nonobviousness where an unexpected characteristic of the claimed process is not suggested by the art).

provides the surprising advantage that newly installed floorboards can have certain desired appearance, such as looking aged and/or appearing to have been installed without nails, since nails are hidden in surface features.

C. Evidence of Secondary Considerations

The U.S. Supreme Court has established that secondary considerations of nonobviousness must be considered during the examination of claims.[78] These secondary considerations "must be considered in every case in which they are present[, and when] evidence of any of these secondary considerations is submitted, the Examiner *must* evaluate the evidence" if the obviousness question is in doubt.[79]

Evidence of secondary considerations, such as outstanding commercial success and surprising benefits of the product constructed according to the claims, has been presented in the Second and Supplemental Hirsch Declarations. This evidence, which must be considered, overwhelmingly favors a conclusion of nonobviousness.

For example, the Second Hirsch Declaration states that the products according to the claims achieved outstanding commercial success, resulting in more than $9.3 million sales since June 2002 to the date of the declaration.[80]

In the Supplemental Hirsch Declaration, evidence is submitted that experts in the art of floor installation have expressed surprise at the results obtained from installing flooring, as

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[78] *See Graham*, 383 U.S. 1 (1966); *see also*, *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530 (Fed. Cir. 1983) (stating that it is jurisprudentially inappropriate to disregard any relevant evidence on any issue in any case, patent cases included. Thus evidence rising out of the so-called "secondary considerations" must always when present be considered en route to a determination of obviousness); *In re Huang*, 103 F.3d 135 (Fed. Cir. 1996) (including evidence of commercial success, long-felt but unsolved needs, failure of others, and copying as secondary considerations); *Ashland Oil v. Delta Resins & Refractories*, 776 F.2d at 306 ("all relevant evidence going to the issue of obviousness/nonobviousness, which includes properly presented evidence on secondary considerations, must have been considered prior to reaching a conclusion on obviousness/nonobviousness").

[79] *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026 (Fed. Cir. 1985) (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d at 1539) (opining that secondary considerations must be considered "always not just when the decision maker remains in doubt after reviewing the art").

[80] Second Hirsch Declaration ¶ 5.

defined at least in the independent claims. Exhibit A to the Supplemental Hirsch Declaration, a letter from Joseph Baugher of Accent Flooring, a company whose principle business is to install floors, further supports the statements in the declaration.

As stated in the Supplemental Hirsch Declaration, the process corresponding to the claims was approved by the Assignee of the present Application, and was used to produce a flooring as recited in claim 5.[81] After water from a strong storm leaked into the model home in which the floor had been laid, the floor was torn up by a professional demolition team.[82] The demolition team expected to easily tear up the damaged area, using standard removal techniques, since it should have normally taken less than eight hours for that team using the type of floor stripper that is described, and also because the team had used less adhesive than recommended during the installation.[83] But instead, the team took two days to remove the floor and, in the process, broke two of their industrial floor strippers, which are normally expected to last for many floor removals.[84] Thus, the team took far longer than expected, and the strippers failed long before expected.[85] In fact, the bond was so strong, Mr. Baugher provided a "scrap of the torn up floor with 1/2" concrete still on it!"[86] Exhibit B to the Supplemental Hirsch Declaration are the pictures of the scrap of the torn-up floor, with a half inch of concrete still attached. As noted above, Mr. Baugher expressed surprise at the results, and was emphatic about the chunk of concrete still attached to the wood scrap.

As evinced by the Supplemental Hirsch Declaration, these results were surprising to one of ordinary skill in the art of wood flooring installation, as the adhesive and the wood itself would have been expected to fail long before the concrete when the flooring was stripped, instead of pulling up chunks of concrete. This evidence thus establishes that the results obtained by the claimed method and floor are unexpected, showing skepticism of experts and the failure

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[81] Supp. Hirsch Declaration ¶ 18.

[82] *Id.* at ¶ 19.

[83] *Id.*; Supp. Hirsch Declaration Exhibit A.

[84] *Id.*

[85] *Id.*

[86] Supp. Hirsch Declaration Exhibit A.

of others to obtain such results, since the installation was far stronger and more reliable that previous methods.[87]

The Supplemental Hirsch Declaration additionally states that the use of the water impermeable and/or curable adhesive and nails can withstand pooling of water on the concrete, and improves resistance to warping.[88] Mr. Hirsch notes that the adhesive according to the claims can cure even when moisture is present, at levels understood in the art to be much greater than ambient moisture.[89] Also, the combination of nails and adhesive is indicated to be effective in maintaining contact between the floorboard and concrete during elevated hydrostatic pressure conditions.[90] Mr. Hirsch notes that the claimed invention makes it surprisingly possible to install wood warped by processes that traditionally rendered the wood unusable for adhesion to concrete.[91]

Additionally, with respect to claim 17, Mr. Hirsch explains that hiding the nails in wormholes is a great advantage in the industry, since newly installed floorboards can be made to look aged or can appear to have been installed without nails.[92]

These secondary considerations must be weighed in determining obviousness. Appellants respectfully submit that, in this case, the aggregate weight of the secondary considerations weighs favorably for the Appellants.

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[87] Supp. Hirsch Declaration ¶ 20.

[88] *Id.* at ¶ 6.

[89] *Id.* at ¶¶ 6 and 17.

[90] *Id.*

[91] *Id.* at ¶ 4.

[92] *Id.* at ¶ 21.

8. CONCLUSION

Appellants request that the rejections of claims 1-3, 5-7, 10, 12, and 14-20 be reversed and that theses claims be allowed.

Respectfully submitted,

Date: July 17, 2008

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Appendix A -- Claims Appendix

The claim on appeal are:

1. A method for attaching solid hardwood floor planks to a concrete floor surface comprises:

preparing solid wood floorboards having a length of at least about 3 feet for attachment to said concrete floor surface;

applying said floorboards to said concrete floor surface with at least one water resistant, water impermeable adhesive in sufficient quantity to attach said floorboards to said surface;

after said applying step, nailing said boards to said concrete floor surface substantially at right angles thereto, through said boards; and

allowing the adhesive to set.

2. The method of claim 1 wherein said preparing step comprises providing said floorboards with surface wormholes or scratches, colors and finishes, or a combination thereof.

3. The method of claim 1 further comprising, before applying said adhesive to concrete floor surface, preparing said concrete floor surface to be clean, dry, smooth, low in surface moisture, and substantially flat.

4. (Cancelled)

5. A floor comprising a concrete floor surface with solid plank wood floor boards having a length of at least about 3 feet adhesively attached thereto, said adhesive being water resistant and water impermeable with no subflooring between said boards and said concrete floor surface, said floor further comprising a plurality of nails that extend at right angles to said concrete floor surface through said boards, through said adhesive and into said concrete floor surface.

6. The floor of claim 5 wherein said boards include surface wormholes or scratches, colors and finishes, or a combination thereof.

7. The floor of claim 5 wherein said boards are of varying thicknesses.

8 to 9. (Cancelled)

10. The method of claim 2 further comprising, before applying said adhesive to said surface, preparing said surface to be clean, dry, smooth, low in surface moisture, and substantially flat.

11. (Cancelled)

12. The floor of claim 6 wherein said boards are of varying thicknesses.

13. (Cancelled)

14. The method of claim 1, wherein the adhesive comprises a moisture-curable polyurethane-based composition.

15. The method of claim 1, wherein the adhesive comprises a prepolymer including a polyol and a diisocyanate.

16. The method of claim 1, wherein the floorboards are prepared away from the installation site.

17. The method of claim 1, wherein the floorboards are prepared with surface features that include at least one of wormholes and scratches, and the floorboards are nailed by nailing nails into said surface features to hide the nails therein, wherein the floorboards are installed so that the surface features are visible.

18. The method of claim 1, wherein the adhesive is applied to provide an adhesive layer, and the floorboards are nailed through said adhesive layer.

19. The method of claim 1, wherein the adhesive is allowed to set after the floorboards are nailed.

20. A method for installing on a concrete floor surface a floor comprising solid hardwood floor planks, which method comprises:

preparing solid wood floorboards having a length of at least about 3 feet for attachment to said concrete floor surface;

applying said floorboards to said concrete floor surface with at least one water-resistant, moisture-curable adhesive in sufficient quantity to attach said floorboards and said surface;

nailing the boards to the concrete floor surface to hold the boards to the adhesive on the concrete surface as the adhesive sets; and

allowing the adhesive to set and cure to form a water resistant bond between the floorboards and floor surface.

Appendix B -- Evidence Appendix

1. **The First Grady Declaration**
   - By Joseph Grady
   - Filed on January 27, 2004 by Applicant (acknowledged by the Examiner in the Office Action of April 15, 2004)
2. **The Second Grady Declaration**
   - By Joseph Grady
   - Filed on July 6, 2004 by Applicant (acknowledged by the Examiner in the Office Action of October 20, 2004)
3. **The First Hirsch Declaration, with Exhibits A-C**
   - By Richard Hirsch
   - Filed on October 30, 2003 by Applicant; refiled on November 25, 2003 after filing of Continued Prosecution Application (acknowledged by the Examiner in the Office Action of January 6, 2004)
4. **The Second Hirsch Declaration**
   - By Richard Hirsch
   - Filed on July 6, 2004 by Applicant (acknowledged by the Examiner in the Office Action of October 20, 2004)
5. **The Supplemental Hirsch Declaration, with Exhibits A and B**
   - By Richard Hirsch
   - Filed on April 20, 2005 by Applicant (acknowledged by the Examiner in the Office Action of July 11, 2005)
6. **The Perkins Declaration, with Exhibit A**
   - By James Perkins
   - Filed August 2, 2007 by the Applicant (acknowledged by the Examiner in the Office Action of October 18, 2007).

Appendix C -- Related Proceedings Appendix

None